



Newcombe House & Kensington Church Street

Daylight, Sunlight & Overshadowing Report

September 2017

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- Appendix I Drawing Nos NE72/55 BRE86 to BRE121 and NE72/61 BRE/238 plus associated results tables
- Appendix II Drawing Nos NE72/68 BRE241 to BRE244 plus associated results tables
- Appendix III Drawing Nos NE72/57 BRE/170 to 180 and NE72/58 BRE/194

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Status: Final Draft Date: September 2017

For and on behalf of GVA Grimley Limited

1. Introduction

1.1 GVA Schatunowski Brooks are retained by Notting Hill Gate KCS Limited to consider Daylight, Sunlight and Overshadowing matters in respect of their proposed development of the site known as Newcombe House and Kensington Church Street, 43/45 Notting Hill Gate, 39/41 Notting Hill Gate, and 161-237 Kensington Church Street (Odd).

1.2 The description of the development is as follows:

“Demolition of the existing buildings and redevelopment to provide office, residential, and retail uses, and a flexible surgery/office use, across six buildings (ranging from ground plus two storeys to ground plus 17 storeys), together with landscaping to provide a new public square, ancillary parking and associated works.”

1.3 The purpose of this Report is to both assess the impact of the proposed development to existing Daylight and Sunlight amenity enjoyed by occupants of neighbouring dwellings, as well as the quality of provision for future occupants of the proposed dwellings and users of the proposed external amenity spaces. The report also considers the potential overshadowing effects to existing amenity spaces and gardens.

2. Sources of Information and Limitations

2.1 The existing and surrounding buildings have been modelled from an accurate survey comprising drawing numbers:

- Nottinghill_site.dwg
- Nottinghill_roof.dwg
- 0522006.dwg
- Nottinghill_rol.dwg
- Nottinghill.els.dwg
- 0657014_AH_elevations.dwg

2.2 To ensure that the assessment model is up to date, an accurate register of nearby planning applications has been issued to us, which was therefore considered for possible relevance to the subject matter. This identified the following planning permissions and how they were incorporated into the report:

- PP/15/05730 (66-70 and 72-74 Notting Hill Gate) – impact to consented development assessed;
- PP/16/05212 (15-35 Notting Hill Gate) - consented additional storey included in assessments;
- PP/16/05236 (47-69 Notting Hill Gate, W11 3JS) - consented additional storey included in assessments.
- PP/12/03114 (145 Kensington Church Street, LONDON, W8 7LP) – assessment made of constructed but not yet occupied development.

2.3 For the proposed scheme we have relied upon the 3D massing model prepared by Urban Sense Architecture reference 1059_170329_preliminary-massing_model_cbg+17, g+13_wpb3g+4_revC.dwg which represents the same massing as the current application scheme.

2.4 For the internal layouts of the proposed new dwellings, we have relied upon the drawing numbers:

- 1 0 5 9 -P-SITE-AA(0 -) 0 0 1
- 1 0 5 9 -P-SITE-AA(0 -) 0 0 2
- 1 0 5 9 -P-SITE-AA(0 -) 0 1 1
- 1 0 5 9 -P-SITE-AA(0 -) 0 2 1
- 1 0 5 9 -P-SITE-AA(0 -) 1 0 0
- 1 0 5 9 -P-SITE-AA(0 -) 1 0 1
- 1 0 5 9 -P-SITE-AA(0 -) 1 0 2
- 1 0 5 9 -P-SITE-AA(0 -) 1 0 3
- 1 0 5 9 -P-SITE-AA(0 -) 1 0 4

- 1 0 5 9 -P-SITE-AA(0 -) 1 0 5
- 1 0 5 9 -P-SITE-AA(0 -) 1 0 6
- 1 0 5 9 -P-SITE-AA(0 -) 1 0 7
- 1 0 5 9 -P-SITE-AA(0 -) 1 0 8
- 1 0 5 9 -P-SITE-AA(0 -) 1 0 9
- 1 0 5 9 -P-SITE-AA(0 -) 1 1 0
- 1 0 5 9 -P-SITE-AA(0 -) 1 1 1
- 1 0 5 9 -P-SITE-AA(0 -) 1 1 2
- 1 0 5 9 -P-SITE-AA(0 -) 1 1 3
- 1 0 5 9 -P-SITE-AA(0 -) 2 0 1
- 1 0 5 9 -P-SITE-AA(0 -) 2 0 2
- 1 0 5 9 -P-SITE-AA(0 -) 2 0 3
- 1 0 5 9 -P-SITE-AA(0 -) 2 0 4
- 1 0 5 9 -P-SITE-AA(0 -) 2 0 5
- 1 0 5 9 -P-SITE-AA(0 -) 2 0 6
- 1 0 5 9 -P-SITE-AA(0 -) 3 0 1
- 1 0 5 9 -P-SITE-AA(0 -) 3 0 2
- 1 0 5 9 -P-SITE-AA(0 -) 3 0 3
- 1 0 5 9 -P-SITE-AA(0 -) 3 0 4
- 1 0 5 9 -P-KCS1 -AA(0 -) 1 0 0
- 1 0 5 9 -P-KCS1 -AA(0 -) 1 0 1
- 1 0 5 9 -P-KCS1 -AA(0 -) 1 0 2
- 1 0 5 9 -P-KCS1 -AA(0 -) 2 0 1
- 1 0 5 9 -P-KCS1 -AA(0 -) 2 0 2
- 1 0 5 9 -P-KCS1 -AA(0 -) 3 0 1
- 1 0 5 9 -P-KCS1 -AA(0 -) 3 0 2
- 1 0 5 9 -P-KCS1 -AA(0 -) 3 0 3
- 1 0 5 9 -P-KCS2 -AA(0 -) 1 0 0
- 1 0 5 9 -P-KCS2 -AA(0 -) 1 0 1
- 1 0 5 9 -P-KCS2 -AA(0 -) 1 0 2
- 1 0 5 9 -P-KCS2 -AA(0 -) 2 0 1
- 1 0 5 9 -P-KCS2 -AA(0 -) 3 0 1
- 1 0 5 9 -P-KCS2 -AA(0 -) 3 0 2
- 1 0 5 9 -P-KCS2 -AA(0 -) 3 0 3
- 1 0 5 9 -P-WPB1 -AA(0 -) 1 0 0
- 1 0 5 9 -P-WPB1 -AA(0 -) 1 0 1
- 1 0 5 9 -P-WPB1 -AA(0 -) 3 0 1
- 1 0 5 9 -P-WPB1 -AA(0 -) 3 0 2
- 1 0 5 9 -P-WPB2 -AA(0 -) 1 0 0

- 1 0 5 9 -P-WPB2 -AA(0 -) 1 0 1
- 1 0 5 9 -P-WPB2 -AA(0 -) 1 0 2
- 1 0 5 9 -P-WPB2 -AA(0 -) 2 0 0
- 1 0 5 9 -P-WPB2 -AA(0 -) 2 0 1
- 1 0 5 9 -P-WPB2 -AA(0 -) 3 0 0
- 1 0 5 9 -P-WPB2 -AA(0 -) 3 0 1
- 1 0 5 9 -P-CB-AA(0 -) 0 1 1
- 1 0 5 9 -P-CB-AA(0 -) 1 0 0
- 1 0 5 9 -P-CB-AA(0 -) 1 0 1
- 1 0 5 9 -P-CB-AA(0 -) 1 0 2
- 1 0 5 9 -P-CB-AA(0 -) 1 0 3
- 1 0 5 9 -P-CB-AA(0 -) 1 0 4
- 1 0 5 9 -P-CB-AA(0 -) 1 0 5
- 1 0 5 9 -P-CB-AA(0 -) 1 0 6
- 1 0 5 9 -P-CB-AA(0 -) 1 0 7
- 1 0 5 9 -P-CB-AA(0 -) 1 0 8
- 1 0 5 9 -P-CB-AA(0 -) 1 0 9
- 1 0 5 9 -P-CB-AA(0 -) 1 1 0
- 1 0 5 9 -P-CB-AA(0 -) 2 0 1
- 1 0 5 9 -P-CB-AA(0 -) 2 0 2
- 1 0 5 9 -P-CB-AA(0 -) 3 0 1
- 1 0 5 9 -P-CB-AA(0 -) 3 0 2
- 1 0 5 9 -P-CB-AA(0 -) 3 0 3
- 1 0 5 9 -P-CB-AA(0 -) 3 0 4
- 1 0 5 9 -P-CB-A A (4 -) 4 0 0
- 1 0 5 9 -P-CB-A A (4 -) 4 0 1
- 1 0 5 9 -P-CB-A A (4 -) 4 0 2
- 1 0 5 9 -P-KCS1 -A A (4 -) 4 0 0
- 1 0 5 9 -P-KCS1 -A A (4 -) 4 0 1
- 1 0 5 9 -P-KCS1 -A A (4 -) 4 0 2
- 1 0 5 9 -P-KCS1 -A A (4 -) 4 0 3
- 1 0 5 9 -P-WPB2 -A A (4 -) 4 0 0
- 1 0 5 9 -P-WPB2 -A A (4 -) 4 0 1

2.5 The site has been inspected on a number of occasions and the survey information has been supplemented by measurements taken on site.

3. Daylight and Sunlight Standards

3.1 The BRE Guidelines – “*Site Layout Planning for Daylight and Sunlight: A Guide to Good Practice*”, are well established and are adopted by most Local Authorities as the appropriate scientific and empirical methods of measuring daylight and sunlight in order to provide objective data upon which to apply their planning policies.

3.2 The BRE Guidelines are not fixed standards but should be applied flexibly to take account of the specific circumstances of each case.

3.3 The Introduction of the Guidelines states:

"The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and this document should not be seen as an instrument of planning policy. Its aim is to help rather than constrain the developer. Although it gives numerical guidelines, these should be interpreted flexibly because natural lighting is only one of the many factors in site layout design."

3.4 The ‘flexibility’ recommended in the Guidelines should reflect the specific characteristics of each case being considered. For example, as the numerical standards within the Guidelines have been derived on the basis of a low density suburban housing model, it would be entirely appropriate to apply a more flexible approach when dealing with higher rise developments in a denser inner city urban environment.

3.5 In addition, where existing and proposed buildings have specific design features such as projecting balconies, deep recesses, bay windows etc, it is also equally valid to apply a degree of flexibility to take account of the effect of these particular design features.

3.6 This does not mean that the recommendations and targets within the Guidelines can be disregarded but, instead, the ‘flexibility’ that should be applied should be founded on sound scientific principles that can be supported and justified.

3.7 This requires a certain level of professional value judgement and experience.

Daylighting

3.8 The maximum VSC value that can be achieved for a totally unobstructed vertical window is 40% VSC. The target VSC value for good daylighting conditions is 27% VSC.

3.9 In simple terms, 27% VSC equates to being able to see 27% of the Sky Dome i.e. the hemisphere of sky above a given reference point.

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- 3.10 A VSC value of 27% will be achieved where the obstruction in front of a vertical window is continuous and parallel to the plane of that window and subtends a vertical angle of 25 degrees when measured from the mid-point of that window.
- 3.11 It therefore follows that if a proposed new development is below a vertical angle of 25 degrees, the resultant VSC value will remain above 27%.
- 3.12 This is the scientific basis for the initial 'screening' in the BRE Guidelines where it is unnecessary for any further detailed daylight (or sunlight) tests to be undertaken where a proposed development will remain below a vertical angle of 25 degrees.
- 3.13 It is clear that in an inner city urban environment the relationship of the vast majority of existing buildings already exceed a vertical angle of 25% and that the VSC values that prevail will therefore be below 27% VSC. In such circumstances VSC values in the mid-teens are the norm, and value in excess of 20% VSC will be considered to be good.
- 3.14 In respect of daylighting, the BRE Guidelines adopt different methods of measurement depending on whether the assessment is for the impact on existing neighbouring premises or for measuring the adequacy of proposed new dwellings.
- 3.15 For safeguarding the daylight received by existing neighbouring residential buildings around a proposed development, the relevant recommendations are set out in Section 2.2 of the Guidelines.
- 3.16 The adequacy of daylight received by existing neighbouring dwellings is measured using two methods.
- 3.17 First, it is necessary to measure the Vertical Sky Component (VSC), followed by the measurement of internal Daylight Distribution by plotting the position of the 'existing' and 'proposed' no sky line contour.
- 3.18 VSC is measured at the mid-point on the external face of the window serving a habitable room. For the purpose of the Guidelines, a "habitable" room is defined as a Kitchen, Living Room or Bedroom.
- 3.19 Bathrooms, hallways and circulation space are excluded from this definition. In addition, there is often a further distinction in respect of small kitchens.
- 3.20 Where the internal area of a small kitchen limits the use to food preparation and is not of sufficient size to accommodate some other form of "habitable" use such as dining, the kitchen need not be classed as a "habitable" room in its own right.

- 3.21 VSC is a 'spot' measurement taken on the face of the window and is a measure of the availability of light from the sky from over and around the "existing" and "proposed" obstruction caused by buildings or structures in front of the window.
- 3.22 As it is measured on the outside face of the window, one of the inevitable shortcomings is that it does not take account of the size of the window or the size or use of the room served by the window.
- 3.23 For this reason, the BRE Guidelines recommend that internal Daylight Distribution is measured in addition to VSC.
- 3.24 The 'No Sky Line' contour plotted for the purpose of measuring internal Daylight Distribution identifies those areas within the room, usually measured on a horizontal working plane set at table top level, where there is direct sky visibility.
- 3.25 This therefore represents those parts within the room where the sky can be seen through the window. This second measure therefore takes account of the size of the window and the size of the room.
- 3.26 When interpreted in conjunction with the VSC value, the likely internal lighting conditions, and hence the quality of lighting within the room, can be assessed.
- 3.27 For VSC, the Guidelines states that:
- "If this Vertical Sky Component is greater than 27% then enough skylight should still be reaching the window of the existing building. Any reduction below this level should be kept to a minimum. If the Vertical Sky Component with the new development in place is both less than 27% and less than 0.8 times its former value, then the occupants of the existing building will notice the reduction in the amount of skylight."*
- 3.28 To put this in context, the maximum VSC value that can be received for a totally unobstructed vertical window is 40%.
- 3.29 It is therefore permissible for an obstruction to reduce the VSC value by 13 percentage points before the level of daylight received by the window could be below standard.
- 3.30 There are however circumstances where the VSC value is already below 27%. In such circumstances, it is permissible to reduce the existing VSC value by a factor of 0.2 (i.e. 20%) so that the value on the 'proposed' conditions remains more than 0.8 times its former value.
- 3.31 The scientific reasoning for this permissible margin of reduction is that through the research undertaken at the Building Research Establishment, they have found that

existing daylight (and sunlight) levels can be reduced by a factor of 20% before the loss becomes noticeable.

- 3.32 This factor of reduction applies to VSC, daylight distribution, sunlight and overshadowing.
- 3.33 Where existing windows enjoy very high levels of daylight under existing conditions, the percentage reduction of daylight can be higher provided that the residual VSC value remains adequate.
- 3.34 By contrast, the adequacy of daylight for proposed 'New-Build' dwellings is measured using the standards in the British Standard Code of Practice for Daylighting, BS8206 Part 2.
- 3.35 The British Standard relies upon the use of Average Daylight Factors (ADF) rather than VSC and Daylight Distribution. The use of ADF is referred to in the BRE Guidelines (Appendix C).
- 3.36 ADF is sometimes seen as a more accurate and representative measure of internal lighting conditions and is more suitable for New-Build dwellings as it comprises a greater number of design factors and input variables/coefficients that are within the Designer's control.
- 3.37 That is, the value of ADF is derived from:
- The actual amount of daylight received by the window(s) serving the room expressed as the "angle of visible sky" which is derived from the VSC value and therefore represents the amount of light striking the face of the window.
 - The loss of transmittance through the glazing.
 - The size of the window (net area of glazing).
 - The size of the room served by the window(s) (net internal surface area of the room).
 - The internal reflectance values of the internal finishes within the room.
 - The specific use of the room.
- 3.38 One of the main reasons why ADF is more appropriate for New-Build buildings is that any of the above input variables can be changed during the course of the design process in order to achieve the required internal lighting values.
- 3.39 The ability to make such changes is not usually available when dealing with existing neighbouring buildings.
- 3.40 Unlike the application of VSC and daylight distribution, the British Standard differentiates between different room uses. It places the highest ADF standard on family kitchens

where the minimum target value is 2%df. Living Rooms should achieve 1.5%df, and Bedrooms 1.0%df.

Sunlighting

- 3.41 The requirements for protecting sunlight to existing residential buildings are set out in section 3.2 of the BRE Guidelines. As with daylight, it is unnecessary for detailed sunlight tests to be undertaken if a proposed development is below a vertical angle of 25 degrees as the BRE targets will automatically be met.
- 3.42 The availability of sunlight varies throughout the year with the maximum amount of sunlight being available on the summer solstice and the minimum on the winter solstice.
- 3.43 In view of this, the internationally accepted test date for measuring sunlight is the spring equinox (21 March), on which day the United Kingdom has equal periods of daylight and darkness and sunlight is available from approximately 0830hrs to 1730hrs.
- 3.44 In addition, on that date, sunlight received perpendicular to the face of a window would only be received where that window faces within 90° of due south. The BRE Guidelines therefore limit the extent of testing for sunlight where a window faces within 90° of due south.
- 3.45 The sunlight standards are normally applied to the principal Living Room within each dwelling rather than to kitchens and bedrooms.
- 3.46 The recommendation for sunlight is:

"If this window reference point can receive more than one quarter of annual probable sunlight hours, including at least 5% of annual probable sunlight hours during the winter months of 21 September and 21 March, then the room should still receive enough sunlight

Any reduction in sunlight access below this level should be kept to a minimum. If the availability of sunlight hours are both less than the amounts given and less than 0.8 times their former value, either over the whole year or just during the winter months, then the occupants of the existing building will notice the loss of sunlight."

- 3.47 A good level of sunlight will therefore be achieved where a window achieves more than 25% APSH, of which 5% should be in the winter months. Where sunlight levels fall below this suggested recommendation, a comparison with the existing condition should be undertaken and if the reduction ratio is less than 0.2, i.e. the window continues to receive more than 0.8 times its existing sunlight levels, the impact on sunlight will be acceptable.

Permanent Overshadowing (Time In Sun)

- 3.48 The BRE Guidelines acknowledge that the spaces between buildings have an important impact on their overall appearance and ambience.
- 3.49 They state that the sunlight reaching spaces is valuable for a number of reasons, namely to:
- Provide attractive sunlit views (all year);
 - Make outdoor activities like sitting out and children's play more pleasant (mainly warmer months);
 - Encourage plant growth (mainly spring and summer);
 - To dry out the ground, reducing moss and slime (mainly in colder months);
 - Melt frost, ice and snow (in winter); and
 - Dry clothes (all year).
- 3.50 As can be seen from the above list, it is important to ensure good sunlight penetration throughout the year for various reasons. They state that the availability of sunlight should be checked for all open spaces where it will be required.
- 3.51 This would normally include:
- Gardens, usually the main back garden of a house;
 - Parks and playing fields;
 - Children's playground;
 - Outdoor swimming pools and paddling pools;
 - Sitting out areas such as those between non-domestic buildings and in public squares; and
 - Focal points for views such as a group of monuments or fountains.
- 3.52 The BRE Guidelines state that each of the above spaces will have different sunlighting requirements and therefore it is difficult to suggest a hard and fast rule for all. They state that the Equinox (21 March) can be selected as an assessment date as it represents average annual conditions.
- 3.53 Whilst the average annual conditions as measured on 21 March are a good guide, potential available sunlight will inevitably increase towards the annual maximum on the summer solstice of 21 June.
- 3.54 The default recommendation is that at least half of the amenity area being assessed (i.e. 50% of its area) should receive at least 2 hours of sunlight on 21 March. The BRE Guidelines advise plotting the '2 hours sun contour' onto the amenity area in order to determine this.

- 3.55 The guidance applies both to new gardens and amenity areas as well as existing ones which are affected by new development.
- 3.56 For existing amenity areas potentially affected by development, the aim is to establish whether there would be any additional negative overshadowing due to the proposed development, whereas for new/proposed spaces the aim is to establish the amount of sunlight it would receive and how this would enhance the amenity provided for users.
- 3.57 If an existing garden or outdoor space is already heavily obstructed then any further loss of sunlight (i.e. overshadowing) should be kept to a minimum.
- 3.58 In situations where this applies (i.e. where an existing space is already heavily obstructed and does not achieve the recommendation), if as a result of new development the area which can receive 2 hours of direct sunlight on 21 March is reduced by a ratio of less than 0.8 (i.e. a greater than 20% difference in the existing 2 hours sun contour), this further loss of sunlight is likely to be noticeable.
- 3.59 In this situation a garden or amenity area would tend to look more heavily overshadowed.

4. Scheme Assessment

Impact on Neighbouring Dwellings

- 4.1 For the purpose of Planning, the tests within the BRE Guidelines are usually limited to habitable rooms within existing neighbouring residential buildings. Non-domestic and commercial buildings are usually excluded as it is generally accepted that these uses normally rely primarily on supplementary artificial lighting throughout the day and therefore are not dependant on natural light for their sole source of amenity.
- 4.2 For the purpose of the BRE Guidelines a “habitable” room is defined as a Family Kitchen, Living Room, or Bedroom. Bathrooms, Hallways and Circulation Space are excluded and therefore do not require testing. We have not had access to the interior of any of the existing neighbouring buildings and have therefore relied upon an external inspection and review of any publicly available records to establish the extent, location and layouts of existing neighbouring residential premises and have assumed that all of the windows identified within those premises serve habitable rooms.
- 4.3 Annexed at Appendix I are drawing numbers NE72/55-BRE86, BRE87, BRE88 and BRE89 which are images of the Site Plan and 3D computer model of the ‘existing’ and ‘proposed’ buildings set in context with its neighbours. They are followed by the technical assessment drawings and associated results tables.
- 4.4 Existing neighbouring residential dwellings have been identified in parts of the following properties:
- 72-74 Notting Hill Gate
 - 70 Notting Hill Gate
 - 68 Notting Hill Gate
 - 66 Notting Hill Gate
 - 64 Notting Hill Gate
 - 62 Notting Hill Gate
 - 56 Notting Hill Gate
 - 54 Notting Hill Gate
 - 52 Notting Hill Gate
 - 9 Jameson Street
 - 11 Jameson Street
 - 13 Jameson Street
 - 15 Jameson Street
 - 17 Jameson Street
 - 19 Jameson Street

- 21 Jameson Street
- 23 Jameson Street
- 25 Jameson Street
- 27 Jameson Street
- 29 Jameson Street
- 31 Jameson Street
- 33 Jameson Street
- 35 Jameson Street
- 37 Jameson Street
- 2 Jameson Street
- 4 Jameson Street
- 6 Jameson Street
- 8 Jameson Street
- 5 Kensington Place
- 160 Kensington Church Street
- 162-164 Kensington Church Street
- 166-168 Kensington Church Street
- 170 Kensington Church Street
- 172 Kensington Church Street
- Carlyle Mansions, 174-180 Kensington Church Street
- 182-188 Kensington Church Street
- Staff accommodation above the Public House at 206 Kensington Church Street

4.5 In addition, we have identified the following residential developments which are either consented but not yet built, or built but not yet occupied. As in both cases there are no occupants to experience differences the absolute ADF measure has been applied to assess whether future occupants would enjoy adequate access to available natural light amenity:

- 145 Kensington Church Street
- 67-70 72-74 Notting Hill Gate

Notting Hill Gate

4.6 The results demonstrate that there will be no material impact at all on any of the properties on the north side of Notting Hill Gate.

4.7 That is, all of the results of the daylight and sunlight analysis for 52 Notting Hill Gate through to 74 Notting Hill Gate show that not only will all of the tests for VSC be comfortably within the BRE recommendations, some of the neighbouring habitable rooms will in fact experience a minor improvement in internal Daylight Distribution. This also

applies to the consented but not yet implemented dwellings at 66-70 and 72-74 Notting Hill Gate.

- 4.8 The results therefore demonstrate that there will be no material or noticeable effect on the Daylight and Sunlight amenity presently enjoyed by the properties on the north side of Notting Hill Gate.

Jameson Street

- 4.9 In respect of Daylight, likewise with the properties along Jameson Street 9 Jameson Street to 37 Jameson Street – (odd numbers), and 2-8 Jameson Street (even numbers), the results demonstrate that there will be full compliance with the BRE Daylight Standards in that no single window will experience a loss of VSC in excess of 20%.
- 4.10 In fact, in the vast majority of cases, any change in VSC will be in single figures and therefore will not be noticeable.
- 4.11 In respect of Sunlight, the BRE criteria only apply to windows that face within 90 degrees of due south, and the vast majority of the windows in the rear of 9-37 Jameson Street do not actually fall within the BRE sunlight criteria and therefore do not need to be tested.
- 4.12 The sunlight results do however demonstrate that there will be no material effect at all on the availability of sunlight as the BRE Guidelines will be comfortably satisfied.

Kensington Place and Edge Street

- 4.13 The Daylight results for 5 Kensington Place and 8 Edge Street also show full compliance with the BRE Guidelines, with marginal improvements of internal Daylight Distribution within both properties.
- 4.14 The BRE sunlight criteria does not apply to either of these two properties as they do not face within 90 degrees of due south.

Kensington Church Street

- 4.15 160 Kensington Church Street, 162-164 Kensington Church Street, 166-168 Kensington Church Street and 170-172 Kensington Church Street lie to the south east of the Site at the junction with Kensington Mall.
- 4.16 The results of the daylight and sunlight analyses show full compliance with the BRE Guidelines confirming that there will be no noticeable or material impact on the daylight and sunlight amenity enjoyed by the occupants of these properties.

- 4.17 The extent of residential properties in the block to the north of Kensington Mall up to Notting Hill Gate that fall within the BRE Guidelines, comprise Carlyle Mansions, 174-180 Kensington Church Street, 182-188 Kensington Church Street and the staff accommodation above the Public House at 206 Kensington Church Street.
- 4.18 Under existing conditions, the shop units at 209-217 Kensington Church Street forming part of the Site are just one storey in height, and the other shop units at 219 Kensington Church Street to 229 Kensington Church Street are just two storeys in height.
- 4.19 This is substantially lower than any other building along Kensington Church Street and is an anomaly as the corresponding height of the immediate neighbouring buildings is five storeys. That is, Royston Court, Carlyle Mansions, 182-188 Kensington Church Street and 190 Kensington Church Street are all five storeys in height.
- 4.20 As a consequence, the properties on the east side of Kensington Church Street opposite the Application Site have had the benefit of a relatively unobstructed westerly outlook over the Application Site with no similar comparable in this part of the Borough, especially as the residential accommodation in those neighbouring properties start at first floor level upwards.
- 4.21 In such circumstances the BRE Guidelines recommend that alternative target values for both Daylight and Sunlight should be set to ensure that new development can match the height and proportions of existing buildings.
- 4.22 The VSC (daylight) and APSH (sunlight) targets for the windows on the opposite side of Kensington Church Street should therefore be set to those for a "mirror image" building of the same height, and size, i.e. five storeys.
- 4.23 It is therefore reasonable and appropriate for the existing levels of natural light received by those neighbouring properties to be reduced by more than a factor of 20% without resulting in any material loss of amenity simply due to the fact that they presently receive exceptionally high levels of daylight well above the average within this part of the Borough.
- 4.24 In respect of Daylight, This is borne out by the present VSC values that were recorded under 'existing' conditions, where they all achieve VSC values in excess of the 27% VSC target set in the BRE Guidelines for windows in the principal elevation of low density suburban housing.
- 4.25 In Central London or any traditional built-up urban environment, residual absolute VSC values in the mid-to-high teens would be considered to be very good.

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- 4.26 It should also be noted that 182-188 Kensington Church Street is a relatively new residential development and that the west facing windows are not just full height glazing, but are effectively a 'window wall' which results in an area of glazing that is considerably greater than the more conventional vernacular architecture of the other comparable residential properties along Kensington Church Street.
- 4.27 Those windows therefore allow a considerably greater amount of light to enter each room, as demonstrated by the ADF values recorded for each of those rooms.
- 4.28 Two windows at first floor level in Carlyle Mansions 174-180 Kensington Church Street, and the five first floor windows in 182-188 Kensington Church Street, recorded a loss of VSC marginally above the BRE permissible margin of reduction.
- 4.29 This is not surprising or unexpected due to the fact that those windows have a relatively unobstructed westerly outlook under 'existing' conditions. It is therefore misleading and inappropriate to rely on the percentage reduction when compared to existing lighting levels, as this would take the results out of context.
- 4.30 Those percentage losses were recorded between the low and mid-twenties, but more importantly, the residual VSC values recorded for each of those windows is well in excess of 20% VSC. This demonstrates that the natural lighting levels will remain very good and that there will be no material impact on existing amenity.
- 4.31 In respect of Sunlight, the assessment results also demonstrate that not only will there be full compliance with the BRE Guidelines, the availability of sunlight will in fact be much higher than the BRE recommendations.
- 4.32 206 Kensington Church Street is a Public House, but we understand that in addition to the commercial kitchen at first floor level, the property contains a number of Staff Bedrooms and Common Room at first and second floor levels.
- 4.33 As those rooms are used for quasi-residential purposes, they have been modelled and tested although the occupancy of those rooms is more transient, and is tied to the commercial use of the Public House.
- 4.34 The impact on daylight to these windows will be marginally above the BRE recommendations where the loss of VSC was recorded at the mid-twenties rather than 20%.
- 4.35 However, the absolute residual VSC values recorded for the four first floor windows is just below 20% VSC ranging from 19.31% to 19.75%, and the corresponding absolute residual VSC values at second floor level ranged from 20.96% to 21.42%.

- 4.36 These absolute values of VSC are very good for a built-up urban environment and higher than many comparable dwellings in this part of the Borough. For example, these VSC values are higher than values recorded for the window serving the principal living rooms in the Jameson Street Houses.
- 4.37 The sunlight (APSH) assessment confirmed all windows assessed at 206 Kensington Church Street would achieve in excess of the BRE minimum target recommendations.
- 4.38 In respect of the constructed but not yet occupied dwellings at 145 Kensington Church Street, these would comfortably meet the target ADF recommendations with the proposed development in place, thereby confirming future occupants would enjoy adequate access to available natural light.

Overshadowing of Proposed and Neighbouring Amenity Spaces

Proposed Amenity Space

- 4.39 A “two hour sun in time” analysis has been undertaken for the new public square and this concludes that the proposed courtyard area meets the BRE recommendation of at least 50% of its area receiving two hours of sun on the vernal equinox (March 21st), taken to represent average annual conditions.
- 4.40 The result of 57.07% on the average annual conditions day of March 21st would further increase towards the maximum condition on the summer solstice of June 21st, the time of year it is most likely to be used. Please refer to Appendix III for the technical assessment drawing.
- 4.41 Given the adherence with the BRE recommendations for sunlighting of gardens and open spaces, the amenity offered by the proposed square would be enhanced throughout the year due to ample access to available sunlight. In particular, outdoor activities such as sitting out would be made more pleasant and therefore conducive to users spending time there. The square would also provide attractive sunlit views throughout the year for occupiers of dwellings surrounding it.
- 4.42 Given the existing site constraints (i.e. orientation and existing obstructions) the proposed layout therefore successfully balances appropriate massing positioning whilst providing public space which would be enhanced by sunlight provision.

Neighbouring Amenity Spaces

- 4.43 Due to the daily sunpath (i.e. rising in the East at dawn then rising higher in the sky and moving southwards towards midday before finally setting in the West), in general terms

the greatest potential to produce negative overshadowing effects is for any amenity areas located to the north of new massing.

- 4.44 When considering the potential impact of the proposed development, there are no amenity areas to the north which would fall under the above description. There are small rear gardens serving the properties at Jameson Street due West of the site, which could potentially experience shadowing effects for a very limited period of time in the very early morning on the assessment day of March 21st.
- 4.45 However, as set out in the BRE guidance, at this time of day the sun is so low that existing buildings would block it and therefore the introduction of new massing would not alter the baseline condition.
- 4.46 A transient overshadowing study was undertaken, which can be found at Appendix III. The study confirms that the gardens are already fully in shadowed at this time of day in the baseline condition.
- 4.47 Furthermore, the potential to overshadow these gardens would not be present after early morning, through to midday and the afternoon due to the changing location of the sun. Around midday, any additional shadows would be cast north and then east into the afternoon.
- 4.48 This confirms that for the vast majority of the day, and certainly at noon when access to available sunlight is at its peak, that there is no potential for the proposed development to produce any additional shadows.

Daylight and Sunlight within the Proposed New Dwellings

- 4.49 The guidance on assessing the adequacy of daylight within 'New' dwellings is set out in the British Standard Code of Practice for Daylighting, BS8206 Part 2, 2008, rather than the BRE Guidelines.
- 4.50 The important distinction is that daylight for 'New' dwellings should be measured using Average Daylight Factors rather than the use of Vertical Sky Components. The Average Daylight Factor is a measure of the amount of daylight within the interior of a room and is sometimes seen as a more accurate and representative measure of internal lighting conditions as it is calculated using a greater number of input variables and co-efficients.
- 4.51 It also enables the architect/designer to make changes to the design in order to maximise or optimise internal lighting conditions through suitable design changes.
- 4.52 The residential content in the proposed building can be broken down into four groups comprising the rooms in:

- The Corner Building
 - Kensington Church Street Building 1 (KCS 1)
 - Kensington Church Street Building 2 (KCS 2)
 - West Perimeter Building 1 (WPB 1)
- 4.53 All of the proposed habitable rooms in KCS 1, KCS 2 and WPB 1 have been tested, but it has only been necessary to test the first three levels of habitable rooms in the Corner Building (fourth, fifth and sixth floor levels) as it is clear from the results obtained for those three lower levels that all of the rooms above sixth floor level will receive higher levels of natural daylight and therefore will all comfortably satisfy the target Design Standards.
- 4.54 Annexed at Appendix II are drawing numbers NE72/68 BRE241 to BRE244 which are the layout and Daylight Distribution plans for the rooms that have been modelled and tested within the Corner Building, KCS 1, KCS 2 and WPB 1. The numerical results of the ADF analysis are also included.
- 4.55 Those results show that all of the proposed 'New' habitable rooms will satisfy the ADF standard for interior natural lighting taken from the British Standard Code of Practice for Daylighting, and Appendix C of the BRE Guidelines. It therefore follows that the future occupants of all of the proposed new dwellings will enjoy a good level of daylight amenity.
- 4.56 The results of the sunlight analysis demonstrate that the proposed new habitable rooms will also receive very good levels of sunlight amenity.

5. Summary and Conclusion

- 5.1 The only existing neighbouring residential properties where the BRE daylight guidance was not fully satisfied were two first floor windows in Carlyle Mansion 174-180 Kensington Church Street, and the first floor windows in 182-188 Kensington Church Street, and the window serving the Staff Accommodation above the Public House at 206 Kensington Church Street.
- 5.2 The first two of those properties do however presently overlook the single storey and two storey retail units at 209-229 Kensington Church Street and therefore enjoy a relatively unobstructed westerly outlook over the existing site. Any meaningful development above one or two storeys will therefore result in a disproportionately higher loss of daylight when expressed as a percentage of the current levels of daylight. It is therefore reasonable and appropriate for a higher level of loss to be experienced to these particular windows before there will be any material impact on amenity.
- 5.3 The absolute residual values of VSC for these windows remain extremely good for an Inner City urban environment. Those residual VSC values were in excess of 20% in comparison to typical values in the mid-teens in comparable locations in this part of the Borough. For example, the residual lighting conditions in these properties will be higher than presently enjoyed by the houses along Jameson Street. In addition, the reduction of VSC to these particular windows when expressed as a percentage of the present values is not significantly above the BRE recommendations. The losses recorded were in the low to mid-twenties in comparison to the 20% permissible margin of reduction.
- 5.4 The BRE recommendations with respect to sunlight were fully satisfied in respect of these properties.
- 5.5 The availability of daylight within all of the proposed new dwellings will satisfy the targets in the British Standard Code of Practice for Daylighting and the future occupants of those flats will therefore enjoy a good level of amenity.
- 5.6 In overall conclusion, the performance of the proposed development, both in terms of impact on neighbouring amenity and the level of amenity within the proposed new development, will be more than adequate, and perform very well.